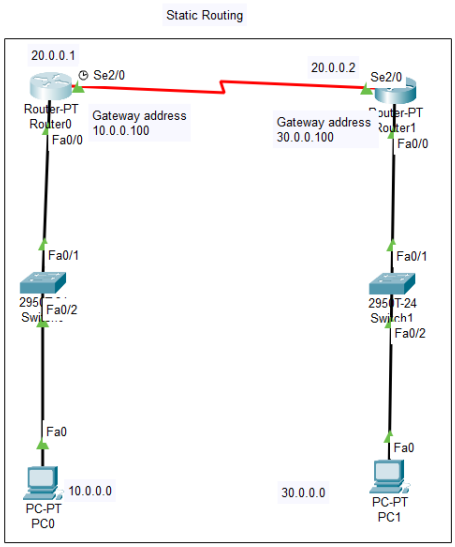
STATIC ROUTING GUIDE

What is Static Routing?

Static routing is a method where a network administrator manually configures routing entries on routers, telling them exactly how to move data between networks.

Static Routing Example: Network Map & Guide



Network Topology

The network diagram showing:

- PC1 on the 10.0.0.0/8 network connected to Router0 (R0)
- PC2 on the 30.0.0.0/8 network connected to Router1 (R1)
- R0 and R1 connected via serial interfaces in the 20.0.0.0/8 network
- All interface IPs clearly labeled

IP Addressing and Interfaces

Device/Interface	IP Address	Subnet Mask
PC 1	10.0.0.1	255.0.0.0
PC 2	30.0.0.2	255.0.0.0
Router0 f0/0	10.0.0.100	255.0.0.0
Router1 f0/0	30.0.0.100	255.0.0.0
Router0 s2/0	20.0.0.1	255.0.0.0
Router1 s2/0	20.0.0.2	255.0.0.0

Static Routing Configuration Commands

On Router0 (R0):

```
ip route 30.0.0.0 255.0.0.0 20.0.0.2
```

On Router1 (R1):

```
ip route 10.0.0.0 255.0.0.0 20.0.0.1
```

To test connectivity from PC1 to PC2 (or vice versa) in Command Prompt, use the ping command like this:

Ping 10.0.0.1 in PC1

Ping 30.0.0.1 in PC0

This demonstration is ideal for showing static routing in practical network setups and validating end-to-end connectivity. To show successful communication between PC0 and PC1 in this network.

Guide and Explanation

This network setup uses two routers and two end devices in different networks, connecting them with a serial link. Each PC uses its router's FastEthernet0/0 as the default gateway. Static routes are manually configured on both routers:

- R0 can send all traffic for the 30.0.0.0/8 network to R1 via the serial link.
- R1 can send all traffic for the 10.0.0.0/8 network to R0 via the serial link.